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09/837,020	04/18/2001	Yasushi Kohno	TKA0028	7531

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EXAMINER

VALENTI, ANDREA M

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/837,020  
Filing Date: April 18, 2001  
Appellant(s): KOHNO ET AL.

Michael S. Gzybowski  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 04 May 2007 appealing from the Office  
action mailed 29 September 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief, Agritecno Yazaki Co., Ltd.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Applicant failed to indicate a prior decision rendered by the Board of Patent Appeals and Interferences regarding 09/837,020 in the appeal brief filed 04 May 2007 and tried to rectify the matter by addressing it in combination with the correction of the Summary of Claimed Subject Matter faxed on 31 July 2007. However, the examiner is correcting the matter via this examiner's answer: Decision by the Board of Patent Appeals and Interferences dated 11/30/2005.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

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**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct, per applicant's amended Summary of Claimed Subject Matter submitted by Fax on 31 July 2007 to properly map the independent claim limitations.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

<b>3,950,891</b>	<b>Hinkes</b>	<b>04-1976</b>
<b>5,666,762</b>	<b>Carlson et al</b>	<b>09-1997</b>

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3, 7, 13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,950,891 to Hinkes in view of U.S. Patent No. 5,666,762 to Carlson et al.

**(10) Response to Argument**

Hinkes was cited as a teaching of known general knowledge in the art of plant husbandry of pelletizing/encapsulating celery seeds i.e. plant seeds that are 1mm in size (Hinkes Col. 2 line 6-9 and Col. 1 line 20). Also, celery seeds are a light germinator (Hinkes Col. 1 line 64-65). Hinkes teaches storing the pelletized/encapsulated seed prior to planting (Hinkes Col. 2 line 8-9 and Col. 7 line 52-55) and teaches the known general knowledge in the art to pelletize small seeds in order to utilize mechanized planting equipment to reduce labor (Hinkes Col. 1 line 39-41 and line 50-53).

Hinkes is merely silent on applying an aqueous gel capsule/coating, i.e. agar, having a moisture content of at least 90% by weight and refrigerating, i.e. at about 15C or lower, the at least one plant seed in an airtight container under conditions that the plant seed does not germinate, i.e. in a dark place. Carlson et al was cited to teach the known general knowledge of one of ordinary skill in the art of plant husbandry that it is old and notoriously well-known to coat plant seeds with aqueous gel coats, i.e. agar, to improve germination (Carlson Col. 1 line 64-66; Col. 5 line 5). Examiner maintains that it would have been obvious to modify the pelletized celery seed with the addition of an aqueous gel seed coat for the known predictable results of improving germination. The aqueous gel coat of Carlson teaches it has a moisture content of 90% by weight (Carlson Col. 5 line 14-15, 35-37).

Hinkes and Carlson are teachings of general knowledge in the art of plant husbandry to coat a seed with an aqueous gel to enhance germination and to pelletize a

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seed that has an aqueous gel coat to utilize mechanized planting equipment i.e. combining the prior art elements according to known methods to yield known results.

Examiner maintains that it is old and notoriously well-known in the art of plant husbandry that it is desirable to prevent seeds from germinating prematurely during storage and that if seeds are light germinators to prevent germination the seeds need to be stored in the dark. One of ordinary skill in the art would be motivated to modify the teachings of Hinkes by storing the celery seeds in the dark to prevent pre-mature germination of the seeds.

Furthermore, Carlson teaches it is general knowledge in the art of plant husbandry to store plant seeds in an airtight container, in a refrigerator of about 15C or lower to prevent germination and then to plant the seeds (Carlson Col. 22 line 62-67). It would have been obvious to one of ordinary skill in the art to further modify the teachings of Hinkes with the general knowledge of seed storage techniques taught by Carlson to yield predictable results of healthy seeds ready for planting at a desired time.

Carlson sets out to teach the knowledge that plant seeds i.e. natural seeds coated with aqueous gel coatings enhances germination (Carlson Col. 1 line 65-67) which inherently is a measure to prevent defective germination and Hinkes sets out to improve the performance of the seed which inherently includes germination (Hinkes Col. 7 line 35-36 and Table IV).

Applicant argues that Hinkes and Carlson are directed to different technologies. However, the examiner maintains that both Hinkes and Carlson are directed to seed coatings and storage methods that promote healthy storage, planting, and germination

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of plant seeds and are thus related in technical fields. Applicant also argues that the coating compositions of Hinkes and Carlson are not functional equivalents, but it is the examiner's position that Hinkes and Carlson are teachings of general knowledge in the art of plant husbandry to coat a seed with an aqueous gel to enhance germinations and to pelletize a seed that has an aqueous gel coat to utilize mechanized planting equipment i.e. combining the prior art elements according to known methods to yield known results. Examiner was not using the teachings to make any alternate substitutions.

Examiner maintains that the claimed limitations are concepts in the art of plant husbandry that are old and notoriously well-known and explicitly taught by the cited prior art of record. Applicant has not patentably distinguished over the teachings of the prior art of record.

#### **(11) Related Proceeding(s) Appendix**

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein by the examiner.

Applicant failed to provide a copy of the prior decision rendered by the Board of Patent Appeals and Interferences regarding 09/837,020 in the appeal brief filed 04 May 2007 and tried to rectify the matter by addressing it in combination with the correction of the Summary of Claimed Subject Matter faxed on 31 July 2007. However, the examiner is correcting the matter via this examiner's answer and has attached to the examiner's answer a copy of the Decision by the Board of Patent Appeals and Interferences dated 11/30/200.

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For the above reasons, it is believed that the rejections should be sustained.

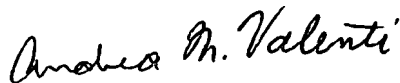
Respectfully submitted,



Andrea M. Valenti  
Primary Examiner  
Art Unit 3643

Conferees:

Andrea M. Valenti



Meredith Petravick



Jeffrey Gellner /Jeffery Gellner/

Primary Examiner, A.U. 3643

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte YASUSHI KOHNO  
and NORITOSHI KATSUTANI

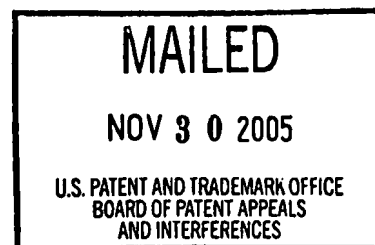
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Appeal No. 2005-2520  
Application No. 09/837,020

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ON BRIEF

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Before GARRIS, PAK, and KRATZ, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal which involves claims 1-13.

The subject matter on appeal relates to a method of preventing defective germination or growth of a plant comprising the steps of encapsulating a plant seed in an aqueous gel capsule, refrigerating the seed under the condition that the seed does not germinate, and sowing the seed. See specification, page 3. This appealed subject matter is adequately represented by claims 1 and 7, which read as follows:

1. A method of preventing defective germination or growth of a plant comprising the steps of:

encapsulating at least one plant seed in an aqueous gel capsule;

refrigerating the at least one plant seed under the condition that the at least one plant seed does not germinate; and

sowing the at least one plant seed.

7. The method of preventing defective germination or growth of a plant as claimed in claim 1, wherein the at least one plant seed encapsulated in an aqueous gel capsule is a pelletized seed.

The references set forth below are relied upon by the examiner in the Section 103 rejections before us:

Asano	5,525,131	June 11, 1996
Kohn et al. (Kohn)	5,701,700	Dec. 30, 1997

O. Skarpaas, Population Viability Analysis for the Oyster Plant (*Mertensia maritime*) in the Oslojord Region, Cand. Scient. Thesis, University of Oslo (1998) at <http://www.personal.psu.edu/faculty/o/u/ous3/csabstr.html>.

Claims 1-6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohn in view of Skarpaas.

Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohn and Skarpaas as applied to claim 1 above in view of Asano.

We refer to the brief, the reply brief, and to the answer and the Office Action mailed August 15, 2003 as Paper No. 18 which is referred to on page 3 of the Answer for a complete discussion of the opposing viewpoints expressed by the Appellants and by the Examiner concerning the above-noted rejections.

OPINION

For the reasons set forth below, we will sustain these rejections.

The Rejections Based on Kohno in view of Skarpaas

On page 8 of their brief, the Appellants present the following comparison of the methods defined by appealed claim 1 disclosed by Kohno:

Kohno et al. utilizes an aqueous gel coating composition that is rendered water-insoluble by metal ions. In order to ensure that the storage solution does not adversely affect the gel coating, the storage solution is provided with an osmotic pressure by adding salts listed at column 3, lines 1-9 therein.

In confirming that the storage solutions does not adversely effect the yield of the gel- coated seeds, Kohno et al. conducted comparative tests and concluded that:

The gel-coated seeds thus stored exhibit equal rate of germination and rate of sticking out to those of the gel-coated seeds immediately after preparation. (Column 3, lines 51-54).

The fact the Kohno et al. conducted comparative tests and concluded that the gel-coated seeds that were stored exhibited a rate of germination that was "equal" to that of non-stored seeds establishes that the process of Kohno et al. does not inherently improve germination of the gel-coated seeds.

Moreover, Kohno does not otherwise teach that the disclosed method improves germination or that there is any intent or goal to improve germination.

Kohno accordingly cannot be (and if fact has not been) relied upon alone for rendering appellants' claimed invention anticipated or obvious.

Thus, Appellants believe that the independent claim on appeal requires improved germination and that Kohno's method does not achieve such a result. This belief is not well-taken.

Kohno expressly discloses a method for storing gel-coated seeds whereby the preserved seeds exhibit an equal rate of germination as gel-coated seeds not so stored (Kohno, column 3, lines 51-54). Kohno discloses the method comprising the steps of i.) encapsulating the plant seed in an aqueous gel capsule/coat (column 1, lines 12-20), ii.) refrigerating the seed in a cold solution (column 3, lines 16-30), and iii) sowing the plant seed (column 1, lines 22-25). These steps correspond to those claimed and disclosed by Appellants. For example, regarding the refrigerating step of claim 1 above, the Appellants teach that the refrigerating condition is at a temperature equal to or lower than 15°C, for a period of time that is longer than several days and shorter than several months in a humid condition to prevent water loss from the aqueous gel capsule. See specification, page 5. Similarly, Kohno discloses that the seeds are stored at a temperature between 0°C and 10°C for up to 20 days in an aqueous gel-coated capsule which has been made water-insoluble with a metal ion to prevent evaporation loss of water and thereby maintain a water content necessary for germination (column 3; lines 28-30 and lines 38-47).

From our perspective, the method of Kohno also satisfies the appealed claim 1 objective "preventing defective germination growth of a plant." This is because patentee teaches that, as a result of his method, the stored seeds have the same rate of germination as non-stored seeds. Therefore, the method of Kohno prevents defective germination in the sense that germination for stored seeds is not worse than the germination rate for non-stored seeds.

As indicated above, the Appellants believe that the claims require an improved germination and repeatedly argue that Kohno fails to “improve germination of the gel-coated seeds.” (Brief, page 8). However, this is not the case. The specification does not define the claim 1 phrase “preventing defective germination” to mean “improved germination”. We therefore interpret this claim phrase to mean preventing defective germination relative to, for example, seeds not treated by the method in question. This is the case in Kohno, where the germination rate of the seeds after being stored for several days is still equal to the germination rate of the seeds immediately after preparation.

Even if improved germination were required by claim 1, as alleged by the Appellants, Kohno would satisfy such a requirement. In column 5, Table 3, the germination rates of seeds at different storage conditions are compared. The result shows that gel-coated seeds stored in accordance with patentee’s method (Example 1) experienced the highest germination rate (e.g., up to 98%), while seeds stored by different methods (Comparative Examples 1 and 2) experienced lower germination rates (e.g., as low as 2%). Also, seeds stored at 2°C (Example 1) have the improve germination rate of 98% while the seeds stored at 20°C have the rate of 18-21% (Comparative Example 2). Therefore, Table 3 of Kohno shows improved germination for patentee’s Example 1 seeds relative to the seeds of Comparison Examples 1 and 2.

For the reasons set forth above, we find that Kohno anticipates claim 1. As state in *In re Fracalossi*, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982), “[t]his court has sanctioned the practice of nominally basing rejections on § 103 when, in fact, the actual ground of rejection is that the claims are anticipated by the prior art... . The justification for this sanction is that a lack of novelty in the claimed subject matter, e.g., as evidenced by a complete disclosure of the

invention in the prior art, is the 'ultimate or epitome of obviousness'." It follows that our finding of anticipation supports a *prima facie* case of obviousness under Section 103.

In light of the foregoing, we sustain the Examiner's Section 103 rejection of claims 1-6 and 13 as being unpatentable over Kohno in view of Skarpaas.<sup>1</sup>

#### The Rejection Based on Kohno, Skarpaas and Asano

In support of nonobviousness, the Appellants argue "it is very difficult to carry out a refrigeration treatment for a pelletized seed prior to sowing, because pelletized seeds formed with clay materials per Asano would tend to dissolve during the preservation in the cooling solutions of Kohno et al." (Brief, paragraph bridging pages 14-15). In contrast, we observe that Asano expressly discloses that his pelletized seeds include a coating of waterproof clay minerals and hydrophobic compound, (e.g., column 3, lines 3-10). These materials make the coating insoluble in water. Further, the gel coating in Kohno would prevent the seed coating in Asano from being exposed to the cooling solution during Kohno's refrigerating process.

Furthermore, the combined teachings of these references would have motivated one of ordinary skill in the art to practice Kohno's method on Asano's pelletized seeds in order to improve the machine sowing process (e.g., Asano, column 1, lines 14-16) while preventing the seeds from defective germination by the refrigerating process (e.g., Kohno, column 3, lines 51-54). In response to Appellants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on

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<sup>1</sup> In light of our disposition of this rejection, a discussion of Skarpaas is unnecessary.

**Application No. 09/837,020**

combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In light of the foregoing, we also sustain the Examiner's rejections of claims 7-12 in view of Kohno, Skarpaas and Asano.

## Summary

**The decision of the Examiner is affirmed.**

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(iv)(effective Sept. 13, 2004).

AFFIRMED

**Bradley R. Garriss**  
**Administrative Patent Judge**

**Chung K. Pak**  
**Administrative Patent Judge**

**Peter F. Kratz**  
**Administrative Patent Judge**

## BOARD OF PATENT APPEALS AND INTERFERENCES

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